Health Care Logistics

Programme course

6 credits

Vårdlogistik

TNSL09

Valid from: 2017 Spring semester

Determined by
Board of Studies for Industrial Engineering and Logistics

Date determined
2017-01-25

Main field of study
Logistics

Course level
First cycle

Advancement level
G2X

Course offered for
- Air Transportation and Logistics
- Civic Logistics

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Courses in logistics management, optimization, simulation. Cost-benefit analysis.

Intended learning outcomes
The goal of this course is to provide students with knowledge in how to apply both qualitative and quantitative methods for design and analysis of patient flows, material flows and information flows in health care. After completion of the course the student will be able to:

- Describe the care process as a whole, including the decision making process and what information and systems support is required for decision making.
- Understand and explain the consequences of inefficiencies in the care process
- Account for main problem areas in health care logistics
- Describe which modelling and solution methods are used for the discussed problem areas and apply a selection of these methods, such as simulation and optimization

Course content

- Administration of health care
- Care process - actors and activities
- Health care logistics - concepts and definitions
- Quality and performance measurement in care processes
- Resource allocation and capacity planning
- Simulation of patient flows

Teaching and working methods

Lectures discuss fundamental concepts and issues in health care logistics and introduce methods for modelling and analysis.
Hand-in assignments, which partly are solved with help of special software, aim to illustrate how methods discussed in lectures can be applied to specific problems in health care.

Examination

UPG1	Hand-in assignments	4 credits	U, 3, 4, 5
TEN1	Written examination	2 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för teknik och naturvetenskap

Director of Studies or equivalent

Erik Bergfeldt

Examiner

Krisjanis Steins

Course website and other links

http://www2.itn.liu.se/utbildning/kurs/index.html?coursecode=TNSL09

Education components

Preliminary scheduled hours: 50 h
Recommended self-study hours: 110 h

Course literature

Utdelat material (aktuella artiklar och rapporter) samt valda delar av följande böcker: Jan Vissers & Roger Beech (2005) ”Health Operations Management: Patient Flow Logistics in Health Care”, Routledge Daniel B. McLaughlin & Julie M. Hays (2008) ”Healthcare Operations Management”, Health Administration Press Randolph W. Hall, (Ed.) (2006) ”Patient Flow: Reducing Delay in Healthcare Delivery”, Springer

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.